A STUDY OF EFFECT OF PRANAYAMA ON QUALITY OF LIFE AND SELECTED PHYSIOLOGICAL VARIABLES AMONG THE URBAN WOMEN OF DELHI-NCR

SYNOPSIS

Submitted in partial fulfilments of the requirement of the degree of

DOCTOR OF PHILOSOPHY

to

Lakshmibai National Institute of Physical Education, Gwalior

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CERTIFICATE

I hereby declare that the **synopsis " A STUDY OF EFFECT OF PRANAYAMA ON QUALITY OF LIFE AND SELECTED PHYSIOLOGICAL VARIABLES AMONG THE URBAN WOMEN OF DELHI-NCR''** being submitted in partial fulfillment of the requirement for the degree of Doctor of Philosophy in Yoga under the Department of Yogic Sciences, Lakshmibai National Institute of Physical Education (LNIPE), Gwalior,Madhya Pradesh, India during the academic year 2021-2022.

It is a bonafide record of original work carried out under the supervision **of Dr. Guarav Sanotra** and the co-supervision of **Dr. Vijay Singh Gusain** has not been submitted in full or part to any other university or institute for a degree or diploma.

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ABSTRACT

This study explores the impact of Pranayama a yogic breathing technique on the quality of life and selected physiological variables among urban women residing in the Delhi-NCR region. The purpose of the study is to determine whether consistent Pranayama practice can result in quantifiable gains in physiological health metrics including heart rate blood pressure and respiratory rate as well as psychological well-being. A total 120 Urban women between the ages of 30 and 50 who were part of a purposive sample were split into experimental and control groups. For eight to twelve weeks the experimental group participated in a structured Pranayama intervention, whereas the control group went about their daily lives as usual without engaging in any yoga exercises. Quality of life was evaluated by using a questionnaire. Blood Pressure – Measured by Sphygmomanometer. Blood pressure is the force exerted by circulating blood on the walls of the arteries. Vital Capacity – Measured by Spirometer. Vital capacity is the maximum amount of air a person can exhale after a maximum inhalation. Heart Rate – Measured by Heart Rate Monitor. Heart rate is the number of heart beats per minute.

Keywords – Pranayama, Quality of Life, Blood Pressure, Vital Capacity, Heart Rate

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CHAPTER-I

INTRODUCTION

Yoga is a Sanskrit word derived from Sanskrit root “yuj” which means to connect, join or balance. Pranayama is made from two words prana and aayaama. Prana means vital energy, Jeevan shakti, prana shakti and aayaama means to increase, to extend, to expand. According of Maharishi Patanjali “Tasminsati svasparsvasyorgativicchheda pranamayah (P.Y.S 2.49). It means asana having done, pranayama is the cessation of the movement of inhalation and exhalation.

Quality of life (QOL) is defined as "an individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns". Standard indicators of the quality of life include wealth, employment, the environment, physical and mental health, education, recreation and leisure time, social belonging, religious beliefs, safety, security and freedom.

Blood Pressure

Blood pressure is the pressure of blood pushing against the walls of your arteries. Arteries carry blood from your heart to other parts of your body. Blood pressure is measured using two numbers: The first number, called *systolic* blood pressure, measures the pressure in your arteries when your heart beats. The second number, called *diastolic* blood pressure, measures the pressure in your arteries when your heart rests between beats. If the measurement reads 120 systolic and 80 diastolic, you would say, “120 over 80,” or write, “120/80 mmHg.”

Vital Capacity

The vital capacity is the total volume of air that can be expired after a maximum inhalation or maximum air that a person can breathe in after forced expiration. It is an important measure of a person’s respiratory health. A decreased vital capacity is an indication of restrictive lung disease where the lungs cannot expand completely. In the case of normal vital capacity, the improper functioning of lungs indicates obstructive lung disease where the lungs are blocked in the airways.

VC = TV + ERV + IRV

Vital Capacity Formula

There are two formulae for vital capacity

There are two formulae for vital capacity, based on the sex of the subject. In both of the following formula, *H* represents height in centimeters, while *A* represents the age of a person in years.

Female:

VITAL CAPACITY = (21.78 – 0.101A) X H ***Spirometry***

Spirometry is a simple, non -invasive breathing assessment that can be used to determine overall lung health. During a spirometry assessment, an individual will inhale and exhale through a device called a spirometer. The spirometer will measure the volume of air that is passed through a sensor. If our airway is obstructed or if cells within are respiratory system are damaged, volumes in the test will be lower than what we might expect. In this way, spirometry can be particularly useful in helping assess and diagnose respiratory conditions like asthma, COPD, chronic bronchitis or emphysema.

Heart Rate

A normal resting heart rate for adult's ranges from 60 to 100 beats per minute. Generally, a lower heart rate at rest implies more efficient heart function and better cardiovascular fitness. For example, a well-trained athlete might have a normal resting heart rate closer to 40 beats per minute.

Statement of the problem

A study of effect of pranayama on quality of life and selected physiological variables among the urban women of Delhi-NCR.

Objectives of the study

The following points will be the objectives of the study:

1. To determine a time duration set for practice of Pranayama for the 30 to 40 Years and 40 to 50 Years of the Urban Women of Delhi-NCR.
2. To determine the effect of fifteen minutes of Pranayama for the 30 to 40 Years and 40 to 50 Years of the Urban Women of Delhi-NCR.
3. To determine the effect of twenty minutes of Pranayama for the 30 to 40 Years and 40 to 50 Years of the Urban Women of Delhi-NCR.
4. To determine the effect of twenty-five minutes of Pranayama for the 30 to 40 years and 40 to 50 years of the Urban Women of Delhi-NCR.
5. To compare the effect of fifteen, twenty and twenty-five minutes of Pranayama for the 30 to 40 years and 40 to 50 years of the Urban Women of Delhi-NCR.

Hypothesis

On the basis of research citing's, text books depiction, scientific facts available and research scholar own understanding of this research investigation the following hypothesis have been formulated.

1. There will be no significant effect of twenty minutes pranayama practice on quality of life, Blood Pressure, Vital Capacity and Heart Rate of 30 to 40 years and 40 to 50 Years of Urban Women of Delhi-NCR.

2. There will be no significant effect of thirty minutes pranayama practice on quality of life, Blood Pressure, Vital Capacity and Heart Rate of 30 to 40 years and 40 to 50 Years of Urban Women of Delhi-NCR.

3. There will be no significant effect of forty minutes pranayama practice on quality of life, Blood Pressure, Vital Capacity and Heart Rate of 30 to 40 years and 40 to 50 Years of Urban Women of Delhi-NCR.

Limitation

The study will be limited to:

1. Lifestyle of urban women
2. Eating habits of urban women
3. Daily routine of urban women
4. Job profile of urban women

Delimitation

The study will be delimited to eighty (N=80) urban women from Delhi-NCR Age ranging from thirty to fifty years. The study will be delimitated to minimum 12 weeks of training program.

Significance of the study

The study may significant in the following ways-

1. To generate more evidence to prove effectiveness of pranayama as a healing tool.
2. The study may disclose new facts regarding the function of pranayama on quality-of-life of urban women.
3. The study would provide guidance to Yoga teachers and instructors to prepare training schedules for urban women.
4. The result of the study may bring awareness in the society and families of those urban women who is suffering from hypertension and hypotension.
5. The result of the study may bring awareness in the society and families of those urban women about vital capacity and lungs function.
6. The result of the study may bring awareness in the society and families of those urban women about heart rate and heart function.

CHAPTER-II

REVIEW OF RELATED LITERATURE

The research scholar has gone through all the literatures available throughout the Internet. The literatures which are found relevant to the present study have been abstracted in this chapter to provide the back ground material to evaluate the significance of this study as well as formulation of training protocol.

Literature Review

Surya Bhedana || H.Y.P 2.48 to2.50 ||

Sitting comfortably, the yogi should become fixed in his posture and slowly breathe the air in through right nostril, retention should then be held until breath diffuses to the roots of hair and tips of the nails. then slowly exhale through left nostril.

Sitakari Pranayama ||H.Y. P 2.54 to 2.56 ||

By drawing the breath in through the mouth, make a hissing sound, without gapping the mouth, and exhale through the nose by practising this one become kaamdeva.

Bharmari Pranayama ||H.Y. P 2. 68 ||

Breathe in quickly, making a reverberating sound like the male black bee, and exhale slowly while softly making the sound of the female black bee. By the yogic practise one become lord of the yogis and mind is absorbed in bliss.

Scientific Literature Review

Author	Title	Sample and Sample size	Duration	Study Design	Assesment tool and Parameter	Result
Adler al.(Adler et 2019)	Effect of Pranayama on physiological variables of ag	Twenty Aged Women Selected from	Three Months Duration, every day For	t-test used	Breath holding Capacity And vital Capacity Measured	The result reflects that there was significance

	people	Asrafabad	Thirty		by spirometer	difference

	(women) **(2016)**	west Bengal	Minutes			between pretest and posttest on breath holdig capacity and vital capacity on aged women
Belaguru et al. (Balaguru al., 2021)	Effects of Meditation And Pranayama on Heart rate of Women Students **(2016)**	Meditation Group, Pranayama Group, Control Group 45 females Students Selected from Padampani college of Physical education	12 weeks 5 days a Week, 60 minutes Per day	Comparision Between Pre test And Post test, One way analysis variance	Heart rate and pulse rate Recorded by Palpation at Radial artery per minute	Significant Difference Were found in posttest Heart rate among Meditation, pranayama a control Group
Pramanik El al .(Pramanik al., n.d.)	Immediate effect of a slow pace breathing exercise Bhramari pranayama blood	Total participants 25 males, 25 females	12 weeks 5 days a Week, 60 minutes Per day	Comparision Between Pre test And Post -test, One	Blood pressure is measured by sphygmanometer	Significant Difference Were found in post-test Blood pressure rate and

	pressure and heart rate			way analysis variance		heart rate among male and female
Vivek et (Vivek, n.d.	Effect of Nadi suddhi, Brahmari Pranayama And yoga Nidra on Stress, sleep and quality life among Female School Teacher (2016)	60 females Teachers From The Canadian Public School and Apollo Public School	12 weeks, 3 days A week, 30 Minutes	t-test used	Perceived stress Scale, Pittsburg sleep Index, Quality of Life questionnairre	Strees, sleep, quality of has improved

CHAPTER-III

Methodology

Selection of the subject

Eighty urban women will be selected from Delhi -NCR (30 to 60 years). Later Participants will be categorized in the Control group and Yoga group through randomized control sampling.

Inclusion Criteria

People of age group between 30 to 50. It will be divides into two groups 30 to 40 years and 40 to 50 years of urban women of Delhi- NCR.

Exclusion Criteria

People, less than 30 years and more than 50 years will be excluded from the study. People with conditions of, Hypertension, Cardiovascular, Diabetes, Arthritis, or any severe disease condition.

Sample Size

A total of fewer than 120 urban women with age between 30 to 50 years will be selected and from these samples, these will be categories into control and intervention groups each group has 60 participants. In this there will be sub- division of 30 to 40 years and 40 to 50 years of urban women of Delhi-NCR.

Sampling

Random Sampling: Through Fishbowl sampling.

Design

Proposed Research Design will be Randomized Control Design; Intervention group – intervention group will follow mentioned yoga protocol Control group – control group will continue their daily usual activities.

Assessment tool

Quality of life questionnaire

Blood pressure measures by Sphygmomanometer Vital capacity measures by spirometer

Heart Rate measures by Heart Rate monitor.

variable

Independent variable: pranayama

Dependent variable: quality of life, Blood Pressure, Vital Capacity and Heart Rate.

Collection of the data

The data will be collected by using guidelines established by DRC and ethical committee of LNIPE.

Intervention

1. Opening prayer
2. Expiratory exercises
   Surya Bhedana Pranayama
   Sitkari Pranayama
   Bharmari Pranayama
3. Shanti Mantra

Data Analysis

1. To characterize the level of quality of life and physiological variables among the urban women of Delhi - NCR, Descriptive Statistics will be used.
2. To compare adjusted mean scores of quality of life and physiological variables among the urban women of Delhi -NCR, by considering the pre-score of immunity parameters as covariate, One Way ACOVA will be used.
3. To compare mean scores of quality of life and physiological variables among the urban women of Delhi - NCR, at Pretest and Posttest stages of Experimental Group and Control group, Dependent T- test will be used.

4. Expected Outcome

The anticipated result of the study "A Study of the Effect of Pranayama on Quality of Life and Selected Physiological Variables among the Urban Women of Delhi-NCR" is a substantial enhancement in the physical and mental well-being of the participants. Regular practice of Pranayama is expected to result in an overall improvement in quality of life, enhanced emotional balance, better sleep quality, and reduced stress levels. Positive physiological changes, including increased lung capacity, reduced blood pressure, and an improved pulse rate, are anticipated. The study also seeks to emphasize Pranayama as a straightforward, cost-effective, and easily accessible intervention for the promotion of

holistic health among urban women, thereby promoting its integration into public health programs and daily lifestyles.

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